MISSOURI Division of Energy
Department of Economic Development

Residential Solar Energy Systems

Frequently Asked Questions for Homeowners 3/2016

Q1: What should I know before I consider a solar energy system?

Homeowners should investigate energy efficiency opportunities when considering a solar energy system. Energy-saving actions are the best way to save energy, reduce your energy bills and provide lasting benefits to your home and the environment. In addition to various rebates and loans provided by local electric and gas providers on home energy efficiency improvement, eligible taxpayers may also take advantage of Missouri personal income tax deduction for those costs incurred from qualified home energy audits and the implementation of energy efficiency recommendations made by the audit. Taxpayers may take up to $1,000 for an individual and up to $2,000 for those filing a joint return per year (Form MO-HEA), until December 31, 2020 (unless extended by the state legislature).

Q2: Are there any financial incentives for residential solar energy systems?

A taxpayer may claim a 30% federal tax credit of qualified expenditures for a solar energy system that serves a dwelling unit that is owned and used as a residence by the taxpayer. Expenditures include labor costs for on-site preparation, assembly or original system installation, and for piping or wiring to interconnect a system to the home. Taxpayer should check the current IRS instructions.

Solar energy systems in Missouri which are not held for resale are 100% exempt from state, local, and county property taxes. Your local electric utility may also provide certain types of financial assistance such as rebates.

Q3: What is net metering? Is net metering available where I live?

Net metering is a policy that allows homeowners to receive the full retail value for the electricity that their solar energy system produces. Net metering allows homeowners with solar photovoltaic (PV) systems to use any excess electricity they produce to offset their electric bill. As the homeowner's PV system produces electricity, the kilowatts are first used for any electric needs in the home. If the PV system produces more electricity than the homeowner needs, the extra kilowatts are fed into the utility grid. In Missouri, all electric utilities are required by law to offer net metering to customers with solar PV systems up to 100 kilowatts (kW) in capacity.

Q4: How big a solar energy system do I need?

The size of solar system you need depends on several factors such as how much electricity, hot water or space heat you use, the size of your roof, and how much you're willing to invest. It is also affected by whether the solar energy system is intended to supply your complete energy usage or to supplant a portion of your higher cost energy usage. You can perform a rough estimate of energy production and system cost at http://pvwatts.nrel.gov/. Solar system designers or installers will be able to provide you more accurate technical and economic analysis.

Q5: How much does a solar energy system cost, and how much will I save on utility bills?

There is no single or simple answer. This cost depends on a number of factors, such as the size of the system, and the particular system manufacturer, retailer, and installer. For solar water heaters and space heaters, you also have to consider the price of the fuel used to back up the system. In most cases, you would have to add the cost of natural gas or electricity to get a more accurate estimate of how much you can expect to pay for a solar energy system.

It is also difficult to say how much you will save with a solar energy system, because savings depend on how much you pay your utility for electricity or natural gas, and how much your utility will pay you for any excess power that you generate with your solar system. You can ask your solar system provider how much your new system will produce on an annual basis and compare that number to your annual electricity or hot water demand to get an idea of how much you will save.

Q6: Where can I find someone who designs, installs, and maintains PV systems?

A good way to begin the search is by talking with family members, friends, neighbors and co-workers about their experience with local installers and checking online consumer reviews of your local installers.

It is a good idea to select a designer or installer of solar energy systems by first asking for information about their experience with PV systems as well as how much their services and products cost. With a system designer, you can discuss power requirements or hot water needs for your home, sunlight availability, and other important factors, and determine the type of system that's needed to meet your needs. System designers and installers should be able to provide you with cost estimates and other pertinent information.

Additional Resources:

energy.mo.gov/energy/solar/solar-energy

www1.eere.energy.gov/solar/pdfs/44792.pdf